Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) In a receiver having a first mixer, a second mixer, and a bandpass filter coupled between said first mixer and said second mixer, said first mixer responsive to a first local oscillator signal that is coupled to said first mixer and said second mixer responsive to a second local oscillator signal, a method of compensating for passband variation of said bandpass filter, comprising:

disabling an RF input signal applied to an RF port of said first mixer so that said RF port receives no signal input during a calibration mode;

injecting said first local oscillator signal into an LO port of said first mixer;

leaking said first local oscillator signal from the [[an]] LO port of said first mixer to an IF port of said first mixer that is coupled to an input port of said bandpass filter;

determining an actual passband of said bandpass filter responsive to said first local oscillator signal;

enabling said RF input signal applied to said RF port of said first mixer;

mixing an RF input signal having plurality of channels with said first local oscillator signal after said step of determining to generate a first IF signal, including said step of adjusting a frequency of said first local oscillator signal based upon a selected channel of said plurality of channels and based upon said actual passband of said bandpass filter.

2. (Original) The method of claim 1, wherein the step of determining includes the steps of:

sweeping said frequency said first local oscillator signal; and

measuring an output of said bandpass filter responsive said sweeping step, to determine said actual passband of said bandpass filter.

3. (Original) The method of claim 1, wherein the step of adjusting said frequency of said first local oscillator signal includes the step of setting a frequency of said first local oscillator signal so said selected channel in said first IF signal falls within said actual passband of said bandpass filter.

4. (Original) The method of claim 1, wherein said step of adjusting said frequency includes the step of setting said frequency of said first local oscillator signal so as to compensate for variation of said actual passband of said bandpass filter.

5. (Original) The method of claim 4, wherein said variation is caused by a temperature variation of said bandpass filter.

6. (Original) The method of claim 4, wherein said variation is caused by manufacturing tolerance variation of said bandpass filter.

7. (Original) The method of claim 1, wherein said of step of injecting includes the steps of:

coupling said first local oscillator signal to a local oscillator port of said first mixer when said RF input signal is disabled.

8. (Original) The method of claim 7, further comprising the step of leaking said first local oscillator signal through said first mixer to an input port of said bandpass filter.

9. (Original) The method of claim 1, wherein said step of mixing includes the step of up-converting said selected channel in said first IF signal into said actual passband of said bandpass filter.

10. (Original) The method of claim 9, further comprising the step of filtering said first IF signal so that said selected channel and at most one other channel pass through said bandpass filter.

11. (Original) The method of claim 9, further comprising the step of filtering said first IF signal so that only said selected channel passes through said bandpass filter.

12. (Original) The method of claim 9, further comprising the step of mixing said selected channel at an output of said bandpass filter with a second local oscillator signal in said second mixer to down-converted said selected channel to baseband.

13. (Original) The method of claim 9, wherein said step of mixing said selected channel includes the step of providing image rejection for said selected channel.

14. (Original) The method of claim 1, further comprising the step of filtering said first IF signal to generate an output passband that passes said selected channel and at most one other channel.

15. (Previously Presented) A receiver for processing an RF input signal having a plurality of channels, comprising:

a receiver input configured to receive an RF input signal having a plurality of channels;

a first mixer having a first input coupled to said receiver input and a second input coupled to a first local oscillator signal;

a bandpass filter having an actual passband and an input coupled to an IF output of said first mixer; and

a second mixer having an first input coupled an output of the bandpass filter and an second input coupled to a second local oscillator signal;

wherein the actual passband of said bandpass filter is determined by sweeping a frequency of said first local oscillator signal injected into an LO port of said first mixer during a calibration mode, wherein an RF port of said first mixer receives no signal during said calibration mode, wherein said first local oscillator signal leaks from said LO port to said IF output of said first mixer for input into said bandpass filter.

16. (Currently Amended) The receiver of claim 15, wherein after said calibration mode, said frequency of said first local oscillator is adjusted so that a selected channel of said plurality of channels falls in said actual passband of said bandpass filter that is determined during said calibration mode.

17. (Currently Amended) The receiver of claim 15, wherein after said calibration mode, said frequency of said first local oscillator signal is adjusted to account for any passband variation so that said selected channel of said plurality of selected channels is up-converted into said actual passband of bandpass filter

18. (Currently Amended) The receiver of claim 15, further comprising a means for detecting a power output of said bandpass filter responsive to said first local oscillator during said calibration mode, said actual passband determined from said power output.

19. (Currently Amended) The receiver of claim 18, further comprising a local oscillator control module that receives said power output from said bandpass filter and determines said actual passband of said bandpass filter based on said power output, and controls a frequency of said first local oscillator signal responsive to said actual passband of said bandpass filter.

20. (Canceled)

21. (Currently Amended) The receiver of claim 15, wherein during said calibration mode, said local oscillator signal is swept over a frequency bandwidth sufficient to include said actual passband of said bandpass filter.

22. (Currently Amended) The receiver of claim 15, wherein during said calibration mode, said local oscillator signal is swept from a first frequency to a second frequency, said actual passband of said bandpass filter within a bandwidth defined by said first frequency and said second frequency.

23. (Original) The receiver of claim 15, wherein at least one of said first mixer, said second mixer, and said bandpass filter includes differential inputs and differential outputs.

24. (Original) The receiver of claim 15, wherein said first mixer, said second mixer, and said bandpass filter are differential.

25. (Original) The receiver of claim 15, wherein said first mixer and said second mixer are disposed on a common substrate.

26. (Original) The receiver of claim 25, wherein said bandpass filter is disposed external to said common substrate.

27. (Previously presented) A receiver for processing an RF input signal having a plurality of channels, comprising:

a receiver input configured to receive said RF input signal having said plurality of channels;

a first mixer having a first input coupled to said receiver input and a second input coupled to a first local oscillator signal;

a bandpass filter having an actual passband and an input coupled to an IF output of said first mixer;

a programmable gain amplifier (PGA) having an input coupled to an output of said bandpass filter;

a second mixer having a first input coupled to an output of said programmable gain amplifier and an second input coupled to a second local oscillator signal;

a detector circuit that detects a signal level at an output of said PGA and controls a gain of said PGA based on said signal level;

an LO control circuit that adjusts a frequency of said first local oscillator signal based on (1) a selected channel of said plurality of channels, and (2) the actual passband of said bandpass filter determined during a calibration mode, wherein said first input of said first mixer receives no signal during said calibration mode, said first local oscillator signal provided to said bandpass filter during said calibration mode via a leakage path from an LO port to said IF output of said first mixer.

28. (Currently Amended) The receiver of claim 27, wherein said frequency of said first local oscillator signal is swept during said calibration mode, and said detector circuit detects said signal level at said output of said PGA responsive to said first local oscillator signal to determine said actual passband of said bandpass filter.

29. (Currently Amended) The receiver of claim 27, wherein said LO control circuit adjusts said frequency of said first local oscillator signal so that said selected channel of said plurality of channels falls in said actual passband of said bandpass filter.

30. (Currently Amended) The receiver of claim 27, wherein said actual passband of said bandpass filter is at most 2 channels wide.

31. (Original) The receiver of claim 27, wherein said first mixer and said second mixer are differential.

32. (Original) The receiver of claim 31, wherein said first mixer and said second mixer are disposed on a common integrated circuit substrate, and said bandpass filter is disposed external to said common integrated circuit substrate.

33. (Original) The receiver of claim 31, wherein said second mixer is an image rejection mixer.

34 - 36 (Canceled)